

FAST FACTS AND CONCEPTS #130 ORAL MUCOSITIS: PREVENTION AND TREATMENT

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Introduction Radiation and chemotherapy-induced mucositis causes pain, difficulty swallowing, and decreased oral intake. *Fast Fact #121* explores the diagnosis and assessment of mucositis; this *Fast Fact* focuses on prevention and treatment of radiation (XRT) and chemotherapy-induced oral mucositis.

Background There are many treatments to choose from with mucositis, but unfortunately, there is no gold standard protocol. A systematic review of therapeutic approaches for mucositis suggested that no intervention is proven to prevent or treat mucositis on its own. Instead, multi-modal therapy is often best.

Prevention

- **Oral care:** At least two weeks prior to the start of radiation to the head and neck region, or the use of chemotherapy that is expected to cause severe and prolonged neutropenia (e.g. for acute leukemia), patients should undergo a thorough oral/dental exam with appropriate dental extraction and repair or removal of dental prostheses. Patients should be educated on maintaining good oral hygiene including daily brushing with a soft bristle tooth brush, flossing, use of fluoride plaques, and avoiding denture use. Mouth rinses that contain a chlorhexidine or a mixture of baking soda, salt, and water can prevent the build-up of bacterial overgrowth and remove dead cells. Patients may also want to consider adding povidine iodine rinses to their standard oral care regimen, as doing so has been shown to reduce the severity, incidence, and duration of radiation-induced mucositis. Patients should avoid caustic and drying agents: alcoholic beverages, mouth rinses with alcohol, hot beverages, and acidic foods.
- **Radiation therapy technique:** Advanced radiotherapy techniques such as 3D-conformal therapy and intensity modulated therapy decrease radiation toxicity by limiting doses to the normal oral mucosa. Other XRT modifications that decrease toxicity include using shields over normal tissues, decreasing the radiation fraction size, and decreasing overall treatment time. Severe mucositis may require a 5 to 7 day radiation treatment break to allow for tissue recovery. However, a prolonged break is associated with inferior local control rates and survival.

Treatment

- **Treatment of infection:** Prophylactic use of antifungal, antibacterial or antiviral medications does not decrease the incidence of mucositis. However, clinicians should consider potential super-infection, and have a low threshold to obtain cultures, especially for fungal and viral infections. Of note, viral infections such as herpes may not present with classic physical examination findings.
- **Pain Management:** Local anesthetics such as lidocaine and diphenhydramine are routinely used to relieve pain but do not provide mucosal protection nor hasten recovery. Local anesthetics decrease taste and can impact oral intake. Some patients find addition of carafate slurry or a liquid antacid to a lidocaine/diphenhydramine mixture provides temporary analgesia. Liquid oral or parenteral opioids may be required for adequate pain management (see *Fast Fact #185*). Topical application of honey may help soothe mucositis due to radiotherapy.
- **Topical agents:** A number of topical agents are available to provide symptomatic relief. These include commercial and non-commercial preparation: *Gelclair*, topical lidocaine, Maalox, diphenhydramine and nystatin, etc. Benzydamine is a mouth rinse with analgesic, anesthetic, anti-inflammatory, and antimicrobial properties and has been shown in randomized controlled trials to reduce ulcer rate and incidence as well as reduce need for opioids.
- **Low-energy Laser Therapy:** Some studies have shown pain relief with the use of low power laser therapy delivered in a fractionated course three times a week. Its mechanism of action is thought to be due to anti-inflammatory effects of the laser irradiation on local tissue; however, its use remains experimental and data has been mixed with regards to wound healing.

Reference

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